



UNITED STATES PATENT AND TRADEMARK OFFICE

40

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,595	12/28/2001	Ronald G. McInay	PHYS117996	8806

29906 7590 03/29/2004

INGRASSIA FISHER & LORENZ, P.C.
7150 E. CAMELBACK, STE. 325
SCOTTSDALE, AZ 85251

EXAMINER

DINH, TUAN T

ART UNIT PAPER NUMBER

2827

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/033,595

Applicant(s)

MCILNAY ET AL.

Examiner

Tuan T Dinh

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2003.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 18 and 19 is/are allowed.
6) ☒ Claim(s) 1-16 is/are rejected.
7) ☒ Claim(s) 17 and 20 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed 05/09/03 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Applicant recites the limitation of "the housing includes an external configured to be substantially flush with the substantially uncovered surfaces of each circuit board".

Also, there is no support in the specification and drawings to mention this limitation that sets forth above.

Applicant is required to cancel the new matter in the reply to this Office Action.

Drawings

2. The drawings are objected to because

"The housing includes an external surface configured to be substantially flush with the substantially uncovered surfaces of each circuit board" does not show in any features of the drawings.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 4 and 19 are objected to because of the following informalities:

Claim 4, line 6, "at least to leg portions" should be –at least two leg portions—for proper typo.

Claim 19, line 2, "coupling a plurality of conductive leads" should be –coupling the plurality of conductive leads—for proper antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 7 and 10 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not properly describe "the housing includes an external surface configured to be substantially flush with the substantially uncovered surfaces of each circuit board." The specification on page 6, lines 15-17 that mentions the exterior surface, but does not describe an external surface and does not show this surface substantially flush with the substantially uncovered

Art Unit: 2827

surface of a circuit board. There is no reference number explaining this feature and the drawings do not show it.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 7, 10, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 7, it is unclear. The phrase of "the housing...circuit board" is not understood. What does applicant mean by "configured to be substantially flush" and a substantially uncovered surfaces" The specification does not explain what is mean by "configured to be" and "a substantially" Therefore, the claim is ambiguous as to how flush are the surfaces and what is the scope of "substantially". Applicant should clarify this limitation.

Regarding claim 14, lines 1-2, it is unclear. The phrase of "wherein the brace an electrical conductor" is not understood. Applicant should clarify this limitation.

Examiner assumes that the phrase should be –wherein the brace is an electrical conductor—for proper reading.

1. Claim 10 recites the limitation "the H-bridge circuit" in line 1. There is improper antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-6, 8, 11-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamada et al. (US 6,466,452).

Regarding claims 1, 6, 8, Yamada et al. discloses a circuit package, see figure 1, comprising:

first and second circuit boards (daughter boards 11), column 4, lines 7-8, positioned in first and second planes respectively (the daughter boards 11 are positioned on left and right sides of a molded housing 20);

at least one brace (30), column 4, line 4, coupled to the first and second circuit boards (11);

at least two electrically conductive leads (23a), column 4, lines 35-36, extending from at least one surface of the circuit package (a bottom surface of the housing 20)), the conductive leads (23) being adapted to mounted the circuit package on the external surface in an upright position relative to the external surface (column 4, lines 39-41); and

a housing (20), made from injection molded plastic, column 4, lines 2-3, formed between the first and second circuit boards (11), and configured to substantially cover at least one surface of each circuit board (top and bottom of the housing 20 substantially cover at least a portion of the circuit boards 11) and leave another surface of each circuit board substantially uncovered to thereby expose the uncovered surface to an environment exterior of the package.

As to claim 2, Yamada et al. discloses in figures 3a-3b that the housing (20) comprises a bottom surface (a lower face of the housing 20) including a cavity (a cavity formed between contacts 23a).

As to claim 3, Yamada et al. discloses in figure 1, the first and second circuit boards are each made of a single-sided direct bonded copper substrate.

As to claim 4, Yamada et al. discloses the brace (30) in figure 1 comprises:
at least two arm portion (31), column 4, line 16, extending from an elongated body, at least one of the arm portions (31) coupled to the first circuit board (11) and another coupled to the second circuit board (the latches 31 having projections 32 coupled to the first and second circuit boards 11); and

at least two leg portions (33), column 4, line 29, extending from the body of the brace (30), and each leg portion operable to function as a flexible spacer between the first and second circuit boards (11).

As to claim 5, Yamada et al discloses in figure 1 that first and second braces (30), each positioned between the first and second circuit boards (11), and coupling the first circuit board to the second circuit board, the first and second braces are operable to

Art Unit: 2827

function as a flexible spacer between the first and second circuit boards (11), see column 4, lines 15-34.

Regarding claims 11, 14-15, Yamada et al. discloses a circuit package in figure 1 comprising:

first and second circuit boards (daughter boards 11), column 4, lines 7-8, positioned in first and second planes respectively (the daughter boards 11 are positioned on left and right sides of a molded housing 20), the second circuit board is in contact with the first circuit board (see figure 1);

at least one brace (30), column 4, line 4, coupled to the first and second circuit boards (11);

at least two electrically conductive leads (23a), column 4, lines 35-36, extending from the circuit package (a bottom surface of the housing 20)), and adapted to mounted the circuit package on the external surface (column 4, lines 39-41); and

a housing (20), made from injection molded plastic, column 4, lines 2-3, formed to surround at least a portion of the first and second circuit boards (11).

As to claim 12, Yamada et al. discloses the housing that is formed a surface (a bottom surface of the housing 20) between the leads of the package, and the surface comprises a cavity formed therein (a cavity defined between each of the leads 23a).

As to claim 13, Yamada et al. discloses in figure 1, the first and second circuit boards are each made of a single-sided direct bonded copper substrate.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 9 and 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. ('452) in view of Sullivan et al. (US 6,175,765) submitted by applicant.

Regarding claim 9, Yamada et al. does not disclose an H-bridge circuit mounted on at least one the first and second circuit boards (11).

Sullivan et al teaches an H-bridge circuit (of switches 31-34) mounted on an output circuit (14), see column 4, lines 49-54 of figure 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize an H-bridge circuit in the circuit package of Yamada et al., as taught by Sullivan et al. for the purposes of conducting a low energy defibrillation pulse.

Allowable Subject Matter

6. The limitations of claims 7 and 10 as not found in the prior arts. But in view of 35 U.S.C. 112 rejection of first and second paragraphs, these claims are not indicated as allowed.

7. Claims 17, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2827

8. Claims 18-19 are allowed.

The following is an examiner's statement of reasons for allowance: the references cited in this and the previous office action that discloses a method of manufacturing a circuit package having the steps of: positioning first and second circuit board, coupling at least two brace members to the first and second circuit board, and some other claimed elements. However, they do not disclose or render obvious in combination of the step injecting a molding material between the first and second circuit boards to form a housing that substantially covers at least one surface of each of the circuit boards and leave another surface of each of the circuit boards substantially uncovered to thereby expose at least one surface of the first and second circuit boards.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

9. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments are persuasive to overcome the combination of Kitano et al. ('045) in view of Eland ('450). However, by apply new arts, the claims is/are proper to reject as explained as above.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakamoto et al., Kroske disclose related art.
11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

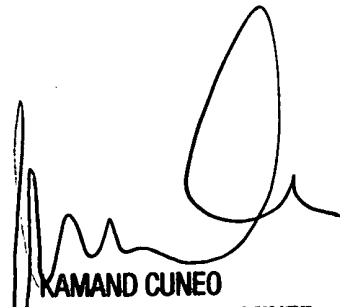
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2827

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan Dinh
March 19, 2004.



KAMAND CUNEO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800